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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,287	12/09/2003	Takeshi Yokoyama	KOY-0026	4955
23413	7590	07/11/2007	EXAMINER	
CANTOR COLBURN, LLP				
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BLOOMFIELD, CT 06002				
			ART UNIT	PAPER NUMBER
			2853	
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			07/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/731,287

Applicant(s)

YOKOYAMA, TAKESHI

Examiner

Ly T. TRAN

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-20 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (USPN 6,561,640).

With respect to claims 1-4 and 6-8, Young discloses an ink jet printer comprising:

- A recording head having a nozzle for ejecting ink (Fig.2: element 120) to be cured by being irradiated with an UV ray, to the recording medium
- A UV radiation apparatus comprises at least one ultraviolet ray radiating device provided with a plurality of UV ray sources (fig.2: element 140, 150) for irradiating the ink jetted by the recording head, an image being formed by irradiating the ink of the recording medium with UV rays of UV device and curing the ink (fig.2)
- Each of UV source is diode (Column 9: line 6-10)
- The UV irradiating device is arranged only on a side/at least on one of both side of a recording surface of the recording medium and arranged on a downstream side of the recording head in a feeding direction of the recording medium (fig.2)

- Wherein the UV radiating devices are arranged on a downstream side of the recording head in feeding direction, wherein a plurality of UV source respectively emitting a plurality of UV rays of a plurality of wavelength peaks different from one another, UV sources emitting UV rays of different light emitting wavelength peaks are arranged in the single UV device, at least one UV having a shorter wavelength component at the light emitting wavelength peak is arranged at a position adjacent to and closer to the recording head than that of the other UV source (Column 4: line 50-60 discloses selecting the wavelength, the wavelength is how much intensity of the UV, so the amount of intensity is a quantity of UV. Therefore, it would have been obvious to one having ordinary skill in the art to select the wavelength/quantity of the UV device which is arranged on the most downstream side in the feeding direction is larger than other UV for the purpose of control the effectiveness if the exposure in response).
- Ink is cationic curable ink (Column 2: line 19-50).

Furthermore, Young discloses the claimed invention except for the shorter wavelength UV source is arranged at a position adjacent to and close to the recording head than other UV source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum ranges involves only routine skill in the art.

2. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young (USPN 6,561,640) in view of Iwasaki et al (USPN 6,626,517).

Young fails to teach the serial head type.

Iwasaki teaches using a serial head (Column 1: line 23-26).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the serial head type as taught by Iwasaki. The motivation of doing so is to obtain a high-grade image at a lower cost.

3. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Young (USPN 6,561,640) in view of Mitani (USPN 5,666,140).

Young fails to teach the line printing type.

Mitani teaches the line printing type (Column 12: line 11-18).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to using a line printing type as taught by Mitani. The motivation of doing so is to print faster and without a complicated drive being required for synchronizing the main scanning operation with auxiliary scanning operation.

4. Claim 5 is ejected under 35 U.S.C. 103(a) as being unpatentable over Young (USPN 6,561,640) in view of Chieng (USPN 4,978,969).

Young fails to teach the wavelength is from 220nm to 400nm.

Chieng teaches the wavelength is about 254-420nm (Column 6: line 40-41)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the wavelength at about 254-420nm as taught by Chieng. The motivation of doing so is in order to form a permanent image on the substrate.

Response to Arguments

5. Applicant's arguments filed 4/30/07 have been fully considered but they are not persuasive.

Applicant argues that Young does not teach the quantity of UV emitted from the UV source arranged on the most downstream side in the feeding direction is set larger than other. This argument is not persuasive because refer to column 4; line 50-60, Young discloses selecting the wavelength, the wavelength is how much intensity of the UV, so the amount of intensity is a quantity of UV. Therefore, it would have been obvious to one having ordinary skill in the art to select the wavelength/quantity of the UV device which is arranged on the most downstream side in the feeding direction is larger than other UV for the purpose of control the effectiveness if the exposure in response.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T. TRAN whose telephone number is 571-272-2155. The examiner can normally be reached on M-Th:6:30 AM-3:00PM or IFP, Friday: work from home.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571-272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LT

Jul. 5, 2007



STEPHEN MEIER
SUPERVISORY PATENT EXAMINER